

Patent Abstracts of Japan

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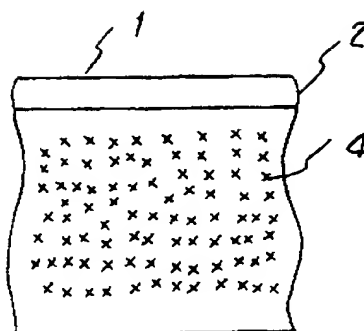
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TITLE : SEMICONDUCTOR DEVICE



ABSTRACT : PURPOSE: To obtain a substrate for IC having high reliability by a method wherein an Si wafer having an intrinsic gettering effect, and moreover made concentration of  $O_2$  within depth of  $10\mu m$  from the surface of the Si substrate to  $5 \times 10^{17}/cm^3$  or less, and the surface region thereof is made to no defect layer substantially is used.

CONSTITUTION: Heat treatments of a high temperature and a low temperature are performed to an Si wafer having concentration of  $O_2$  of  $12 \sim 18 \times 10^{17}/cm^3$  normally, and concentration of  $O_2$  of the layer within depth of  $10\mu m$  from the surface 1, which is the active region of a transistor, is made to  $5 \times 10^{17}/cm^3$  or less. An actually no defect layer is formed in such a way, the defect of the element activating region 2 thereof is reduced to  $10^3 \sim 10^6/cm^3$ , and an intrinsic gettering effect is generated. Moreover lattice defects 4 of a large number are left as they are like the beginning in a region under the region 2. When a substrate obtained in such a way is used, a transistor having no characteristic inferiority and no characteristic variation can be obtained.

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